

REMARKS

Status of the Claims

Claims 1-24 and 28-30 are pending in this application, the independent claims being claims 1, 12, 13 and 23. By this Amendment, claims 1, 12, 13, 23 and 28-30 are amended, and claims 25-27 are canceled.

Summary of Official Action

In the Official Action, claim 29 was objected to on formal grounds, claims 28-30 were rejected under 35 U.S.C. 112, second paragraph, as indefinite, claims 1-23 and 25-30 were rejected under 35 U.S.C. 103(a), as unpatentable over U.S. Patent No. 6,732,079 (Kintner), in view of Giles et al., Meeting Customer Demand Through Mixed-Model Manufacturing (1997) and Schroer et al., Continuous Process Improvement the Quick Step Way (1998), and claim 24 was rejected under 37 U.S.C. 103(a), as unpatentable over the Kintner '079 Patent, the Giles publication and the Schroer publication, further in view of Kiritsis et al., Petri Net Techniques for Process Planning Cost Estimation.

Reconsideration and withdrawal of the objection and rejections are respectfully requested in view of the above amendments and the following remarks.

Entry Under 37 C.F.R. 1.116

Entry of the amendments is proper under 37 CFR §1.116 since the amendments: (a) place the application in condition for allowance (for the reasons discussed herein); (b) do not raise any significant new issue requiring further search and/or consideration (as the amendments merely amplify issues previously discussed throughout prosecution); (c) satisfy a requirement of form asserted in the previous Office Action; (d) do not present any additional claims without canceling a corresponding number of finally rejected claims; and (e) place the application in better form for appeal, should an appeal be necessary. The amendments are

necessary and were not earlier presented because they are made in response to arguments raised in the final rejection. Entry of the amendments is thus respectfully requested.

Formal Amendment

Claim 29 has been amended to correct a typographical error ("computer program product"), as suggested by the Examiner. No new matter has been added. Withdrawal of the objection respectfully is requested.

The §112 rejection of claims 28-30 respectfully is traversed. Nevertheless, without conceding the propriety of the rejection, claims 28-30 have been amended to delete the term objected to by the Examiner. No new matter has been added. Withdrawal of the rejection respectfully is requested.

Claim Amendments

The §103(a) rejections of the claims over the cited art respectfully are traversed. Nevertheless, without conceding the propriety of the rejections, claims 1, 12, 13 and 23 have been amended more clearly to recite various novel features of the claimed invention, with particular attention to the Examiner's comments; claims 25-27 have been canceled without prejudice to or disclaimer of the subject matter recited therein, in light of the amendments to claims 1, 12 and 13. Support for the amendments may be found in the original application, e.g., in Figs. 4 and 6, as discussed below and in the prior personal interview. No new matter has been added.

Prior Art Distinguished

Applicants submit that there are differences between the subject matter sought to be patented and the prior art, such that the subject matter taken as a whole would not have been obvious to one of ordinary skill in the art at the time the invention was made.

Specifically, Applicants submit that the cited art, taken individually or in any combination, fails to disclose or suggest the claimed computer implemented system, method

or computer program product for drafting a supply plan/production plan of an article or service in a plurality of production lines capable of producing different articles or services, each production line including a plurality of supply stations capable of supplying the article or service, and including reiteratively changing a distribution parameter and work force parameter, as disclosed in the present application (e.g., in Figs. 4 and 6) and recited in independent claims 1, 12 and 13. Applicants further submit that the cited art fails to disclose or suggest a computer-implemented production plan drafting method of drafting a production plan for producing an article in a plurality of production lines, including at least the feature wherein a minimum gross personnel cost is calculated by reiteratively adjusting, *in nested sequence*, the number of workers distributed to the worker categories, the tact time, and the planned production volume allocated to each of the production lines, as disclosed in the present application (Fig. 6; nested, iterative steps S210, S211, S212) and recited in claim 23.

The Office Action (e.g., at pages 4, 12, 13, 19 and 20) alleges that the combination of Kintner and Giles teaches a system and method "across several production lines." Applicants respectfully disagree. In rejecting dependent claims 25-27, the Examiner acknowledges that **the Kintner '079 patent** does not expressly teach that the plurality of supply stations constitute a plurality of production lines for producing different articles or services. (Page 24, 1st paragraph). The Examiner further acknowledged that **the Giles publication** is directed to use of a mixed-model production line. (Page 24, 2nd paragraph). In fact, the Giles publication defines mixed-model manufacturing (production) as relating to a *single* assembly/production line only; "Mixed-model manufacturing refers to producing more than one model on a single assembly line." (Page 82, column 1, paragraph 1). That is, the Giles publication is directed to optimizing production using only a single production line. Thus, the Examiner has failed to set forth the required motivation to combine the teachings of these references to achieve the claimed invention, a system/method for drafting a supply plan of an article or a service in a

plurality of production lines capable of producing different articles or services, each production line including a plurality of supply stations capable of supplying the article or the service. In fact, there is no motivation to combine the disparate features of the teachings of the Giles publication and the Kintner '079 patent to achieve the claimed invention because the Giles publication expressly teaches the use of a single assembly line model only.

Applicants submit that the remaining cited art fails to remedy this deficiency.

The Schroer publication relates to a method of continuous process improvement the "Quick Step" way. However, Applicants submit that the Schroer publication fails to disclose or suggest at least the above-described features of the claimed invention. The portions of the Schroer cited by the Examiner as generally supporting this feature are inapposite. The Schroer publication at page 88, column 1, paragraph 4 (cited at page 11, 1st full paragraph, as teaching a method of optimizing production *for a plurality of production lines*), merely discloses a method that lowers the cycle time of a particular operation (H) of one cell (cell 191) by allocating some of the operation to another operator in the same cell. The Schroer publication at page 86, column 1, bullet 1, and Table 1 (cited at pages 11-12 of the Office Action as generally teaching a method for reducing cycle/operation time *in a plurality of production lines . . .*), merely discloses the definition of takt time and ways of looking at "time."

The Kiritsis publication is cited merely for its disclosure relating to Petri techniques.

Applicants submit that these references fail to add anything to the Kintner '079 patent and/or the Giles publication that would have made obvious the claimed invention.

Formal Matters

Finally, in a formal matter, Applicants respectfully traverse the Examiner's assertion that "Applicant did not challenge the officially noticed facts in the previous office action(s)."

As discussed in the prior Amendment filed February 17, 2006, in the personal interview conducted January 25, 2006, the Examiner clarified his statement at page 22 of the (prior) Official Action indicating that the application appears to disclose allowable subject matter that is not positively recited in the claims, and discussed four general concepts disclosed in the application that the Examiner stated may be allowable over the cited art: (1) nested iterations/recursions (see Fig. 6); (2) multiple products/product lines (see Fig. 4); (3) variable tact time (see, e.g., page 2, line 28 and Fig. 6); and (4) the certain specific equations (see equations 1-5 listed at pages 12-14).


As expressly stated in the February 17 Amendment, independent claims 1, 12, 13 and 23 were amended, *without conceding the propriety of the outstanding objections and rejections*, to recite more clearly various novel features of the claimed invention - that is, to positively recite features indicated by the Examiner as directed to *apparently* allowable subject matter, and place the application in condition for allowance, without conceding the propriety of the Examiner's rejections.

Conclusion

Applicants believe that the present Amendment is responsive to each of the points raised by the Examiner in the Official Action, and submit that the application is in condition for allowance. Favorable consideration of the claims and passage to issue of the application at the Examiner's earliest convenience earnestly are solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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